

[INTEGRATED CARBON NANOTUBE SENSORS]

Abstract

A method and structure for an integrated circuit comprising a first transistor and an embedded carbon nanotube field effect transistor (CNT FET) proximate to the first transistor, wherein the CNT FET is dimensioned smaller than the first transistor. The CNT FET is adapted to sense signals from the first transistor, wherein the signals comprise any of temperature, voltage, current, electric field, and magnetic field signals. Moreover, the CNT FET is adapted to measure stress and strain in the integrated circuit, wherein the stress and strain comprise any of mechanical and thermal stress and strain. Additionally, the CNT FET is adapted to detect defective circuits within the integrated circuit.